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**Datasheet for the decision
of 11 November 2014**

Case Number: T 1360/11 - 3.3.07
Application Number: 00944806.9
Publication Number: 1189581
IPC: A61K8/06, A61K8/27, A61K8/19,
A61K8/49, A61Q5/00
Language of the proceedings: EN

Title of invention:
TOPICAL ANTI-MICROBIAL COMPOSITIONS

Patent Proprietors:
THE PROCTER & GAMBLE COMPANY
Arch Chemicals, Inc.

Opponent:
Henkel AG & Co. KGaA

Relevant legal provisions:
RPBA Art. 13(1)
EPC Art. 56, 100(b), 123(3)

Keyword:
Late-filed auxiliary requests - justification for late filing
Sufficiency of disclosure - (yes)
Amendments - extension of protection conferred (no)
Inventive step - (yes)

Decisions cited:
T 0301/87, T 0172/07, T 2017/07, T 0832/08, T 1312/08,
T 0869/10, T 0287/11

Catchword:

Where a granted claim directed to a composition defined in an open manner and including the presence of a component belonging to a class or list of compounds in a quantity defined by a range is later amended by limiting the definition of the class or list of compounds, a possible infringement of the requirements of Article 123(3) EPC may be avoided by including in the amended claim a quantitative condition on the limited class or list of compounds and an additional constraint on the total amount of compounds belonging to the broader class or list (point 3.11).



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 1360/11 - 3.3.07

**D E C I S I O N
of Technical Board of Appeal 3.3.07
of 11 November 2014**

Appellant: Henkel AG & Co. KGaA
(Opponent) Henkelstrasse 67
40589 Düsseldorf (DE)

Representative: Henkel AG & Co. KGaA
FJP / Patente
40191 Düsseldorf (DE)

Respondents: THE PROCTER & GAMBLE COMPANY
(Patent Proprietors) One Procter & Gamble Plaza
Cincinnati, OH 45202 (US)

Arch Chemicals, Inc.
350 Knotter Drive
Cheshire, CT 06410 (US)

Representative: Simpson, Tobias Rutger
Mathys & Squire LLP
The Shard
32 London Bridge Street
London SE1 9SG (GB)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 7 April 2011
rejecting the opposition filed against European
patent No. 1189581 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman J. Riolo
Members: D. Semino
D. T. Keeling

Summary of Facts and Submissions

I. The appeal lies against the decision of the opposition division announced at the oral proceedings on 17 March 2011 to reject the opposition against European Patent 1 189 581. The granted patent comprised 9 claims, claims 1 and 5 reading as follows:

"1. A topical composition for treating microbes, in order to inhibit or prevent the growth on the skin or scalp of said microbes, said composition characterised in that it comprises:

a) from 0.001% to 10%, preferably 0.1% to 2%, by weight of the composition, of an anti-microbial active selected from the group consisting of polyvalent metal salts of pyrithione, preferably zinc pyrithione;

b) from 0.001% to 10%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source selected from the group consisting of zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof, preferably selected from the group consisting of copper sulfate, zinc sulfate, and mixtures thereof; and

c) a topical carrier for the anti-microbial active and the metal salt, preferably a deterative surfactant, more preferably an anionic deterative surfactant; wherein the weight ratio of the metal source to the anti-microbial active is from about 5:100 to about 5:1, wherein at least 50%, preferably at least 99.99%, more preferably 100%, of the anti-microbial active is insoluble in the composition, and wherein

said composition comprises one or more di- or polyamine chelating agent but the ratio of the polyvalent metal salts of pyrithione to the di- or polyamine chelating agents is at least 5 to 1."

"5. A shampoo composition according to anyone of the preceding claims, and useful for improving the appearance of scalp exhibiting dandruff symptoms, wherein said composition is characterized in that it comprises:

- a) from 0.1% to 5%, preferably from 0.3% to 2%, by weight of the composition, of zinc pyrithione;
- b) from 0.01% to 5%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source selected from the group consisting of zinc acetate, zinc oxide, zinc carbonate, zinc hydroxide, zinc chloride, zinc sulfate, zinc citrate, zinc fluoride, zinc iodide, zinc lactate, zinc oleate, zinc oxalate, zinc phosphate, zinc propionate, zinc salicylate, zinc selenate, zinc silicate, zinc stearate, zinc sulfide, zinc tannate, zinc tartrate, zinc valerate, zinc gluconate, zinc undecylate, copper disodium citrate, copper triethanolamine, copper carbonate, cuprous ammonium carbonate, cupric hydroxide, copper chloride, cupric chloride, copper ethylenediamine complex, copper oxychloride, copper oxychloride sulfate, cuprous oxide, copper thiocyanate, and mixtures thereof;
- c) a topical carrier for said zinc pyrithione and said metal ion source; and
- d) a deterative surfactant;

wherein the weight ratio of the metal source to the anti-microbial active is from about 5:100 to about 5:1 and wherein at least 50%, preferably 100% of the zinc pyrithione is insoluble in the composition."

- II. A notice of opposition was filed against the granted patent requesting revocation of the patent in its entirety on the grounds of lack of inventive step and insufficiency of disclosure, in accordance with Article 100(a) and (b) EPC.

III. The opposition was based *inter alia* on the following documents:

D1: EP-A-0 077 630

D7: DE-A-1 617 179

IV. The decision of the opposition division, as far as relevant to the present decision, can be summarised as follows:

- a) The weight ratio of the metal source to the antimicrobial active depended solely on the weight at which the two components were added to the composition and the ratio of the antimicrobial active to the chelating agent had to be based on the totality of polyvalent metal salt of pyrithione, so that neither of them was based on the solubilised or insoluble part of pyrithione salt and the topical composition could be prepared by a person skilled in the art.

- b) The composition of granted claim 1 differed from the compositions of document D7, which was the closest state of the art as it related to particulate insoluble pyrithione salts in antimicrobial compositions, in the presence of a chelating agent. The objective technical problem was the provision of further antimicrobial compositions, as the patent did not comprise any comparative data concerning the presence of a chelating agent. The person skilled in the art would, however, not add a chelating agent to the compositions of D7, as the solubilisation of the pyrithione salts would go against the teaching of D7 itself, so that the subject-matter of granted claim 1 was inventive over D7. The same conclusion

would be reached starting from document D1, which was a more remote prior art.

V. The opponent (appellant) appealed that decision. With the statement setting out the grounds of appeal, it submitted a new document D10 (JP-A-52 092881 in its German translation).

VI. With the reply to the statement of grounds the patent proprietors (respondents) filed auxiliary requests 1 and 2A to 10A. With letter of 16 April 2013 they additionally filed auxiliary requests 2B to 10B.

Claim 1 according to auxiliary request 5A corresponded to granted claim 1 with the redefinition of ingredient b) as follows (deletions in strike-through, additions in bold): "from 0.001% to 10%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source selected from the group consisting of ~~zinc salts,~~ **zinc acetate, zinc oxide, zinc carbonate, zinc hydroxide, zinc chloride, zinc sulfate, zinc citrate, zinc fluoride, zinc iodide, zinc lactate, zinc oleate, zinc oxalate, zinc phosphate, zinc propionate, zinc salicylate, zinc selenate, zinc silicate, zinc stearate, zinc sulfide, zinc tannate, zinc tartrate, zinc valerate, zinc gluconate, zinc undecylate,** copper salts, ~~silver salts, nickel salts, cadmium salts, mercury salts,~~ and mixtures thereof, preferably selected from the group consisting of copper sulfate, zinc sulfate, and mixtures thereof".

VII. First oral proceedings before the Board took place on 20 June 2013. During the oral proceedings inventive step over documents D7 and D1 was debated for the patent as granted and for auxiliary requests 1, 2A to 5A and 2B to 4B. At the oral proceedings the appellant

raised for the first time an objection under Article 123(3) EPC against claim 1 of auxiliary request 5A on the basis that the redefinition of component b) through deletion of some of the salts of the list resulted in an extension of the scope of protection in view of the open definition of the content of the composition ("characterised in that it comprises") and the quantity range defined for component b) in granted claim 1. That objection was also debated.

At the end of these oral proceedings, the Board announced that:

- a) it was of the opinion that the patent as granted was not open to objection under Article 100(b) EPC, that claim 1 according to the patent as granted, or according to auxiliary requests 1, 2A to 4A and 2B to 4B, was not inventive over documents D7 and D1, and that claim 1 according to auxiliary request 5A did not comply with the requirements of Article 123(3) EPC;
- b) that the respondents would be given a period of one month to file amended claims to overcome the objection under Article 123(3) EPC and the appellant would be given a period of one month to react to any new requests.

VIII. With letter of 19 July 2013 the respondents filed new auxiliary requests 6 to 12.

Claim 1 of auxiliary request 6 resulted from an amended combination of granted claims 1 and 5 and read as follows (deletions in strike-through, additions in bold with respect to granted claims 1 and 5):

"1. A topical composition for treating microbes, in order to inhibit or prevent the growth on the skin or scalp of said microbes, said composition ~~characterised in that it comprises:~~ **comprising:**

a) from 0.001% to 10%, preferably 0.1% to 2%, by weight of the composition, of an anti-microbial active selected from the group consisting of polyvalent metal salts of pyrithione, ~~preferably zinc pyrithione;~~

b) from 0.001% to 10%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source selected from the group consisting of zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof, preferably selected from the group consisting of copper sulfate, zinc sulfate, and mixtures thereof; and

c) a topical carrier for the anti-microbial active and the metal salt, ~~preferably a deterative surfactant, more preferably an anionic deterative surfactant;~~ wherein the weight ratio of the metal source to the anti-microbial active is from **2:10 to 3:1** ~~about 5:100 to about 5:1~~, wherein at least 50%, preferably at least 99.99%, more preferably 100%, of the anti-microbial active is insoluble in the composition, and wherein said composition comprises one or more di- or polyamine chelating agent, but the ratio of the polyvalent metal salts of pyrithione to the di- or polyamine chelating agents is at least 5 to 1;

wherein the composition is a 5. ~~A shampoo composition according to anyone of the preceding claims, and useful for improving the appearance of scalp exhibiting dandruff symptoms, wherein said composition is characterized in that it comprises:~~

as a) from 0.1% to 5%, preferably from 0.3% to 2%, by weight of the composition, of zinc pyrithione;

as b) from 0.01% to 5%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source

selected from the group consisting of zinc acetate, zinc oxide, zinc carbonate, zinc hydroxide, zinc chloride, zinc sulfate, zinc citrate, zinc fluoride, zinc iodide, zinc lactate, zinc oleate, zinc oxalate, zinc phosphate, zinc propionate, zinc salicylate, zinc selenate, zinc silicate, zinc stearate, zinc sulfide, zinc tannate, zinc tartrate, zinc valerate, zinc gluconate, zinc undecylate, copper disodium citrate, copper triethanolamine, copper carbonate, cuprous ammonium carbonate, cupric hydroxide, copper chloride, cupric chloride, copper ethylenediamine complex, copper oxychloride, copper oxychloride sulfate, cuprous oxide, copper thiocyanate, and mixtures thereof;

as c) a topical carrier for said zinc pyrithione and said metal ion source; and

d) a deterative surfactant; wherein the weight ratio of the metal source to the anti-microbial active is from **2:10 to 3:1** ~~about 5:100 to about 5:1~~ and wherein at least 50%, preferably 100% of the zinc pyrithione is insoluble in the composition."

Claim 1 of auxiliary request 7 also resulted from an amended combination of granted claims 1 and 5 and read as follows (deletions in strike-through, additions in bold with respect to granted claims 1 and 5):

"1. A topical composition for treating microbes, in order to inhibit or prevent the growth on the skin or scalp of said microbes, said composition ~~characterised in that it comprises:~~ **comprising:**

- a) from 0.001% to 10%, preferably 0.1% to 2%, by weight of the composition, of an anti-microbial active selected from the group consisting of polyvalent metal salts of pyrithione, ~~preferably zinc pyrithione;~~
- b) from 0.001% to 10%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source

selected from the group consisting of zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof, preferably selected from the group consisting of copper sulfate, zinc sulfate, and mixtures thereof; and

c) a topical carrier for the anti-microbial active and the metal salt, ~~preferably a deterstive surfactant, more preferably an anionic deterstive surfactant;~~ wherein the weight ratio of the metal source to the anti-microbial active is from about 5:100 to about 5:1, wherein at least 50%, preferably at least 99.99%, more preferably 100%, of the anti-microbial active is insoluble in the composition, and wherein

said composition comprises one or more di- or polyamine chelating agent, but the ratio of the polyvalent metal salts of pyrithione to the di- or polyamine chelating agents is at least 5 to 1;

wherein the composition is a 5. ~~A shampoo composition according to anyone of the preceding claims, and useful for improving the appearance of scalp exhibiting dandruff symptoms, wherein said composition is characterized in that it comprises:~~

as a) from 0.1% to 5%, preferably from 0.3% to 2%, by weight of the composition, of zinc pyrithione;

as b) from 0.01% to 5%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source selected from the group consisting of zinc acetate, ~~zinc oxide,~~ zinc carbonate, zinc hydroxide, zinc chloride, zinc sulfate, zinc citrate, zinc fluoride, zinc iodide, zinc lactate, zinc oleate, zinc oxalate, zinc phosphate, zinc propionate, zinc salicylate, zinc selenate, zinc silicate, zinc stearate, zinc sulfide, zinc tannate, zinc tartrate, zinc valerate, zinc gluconate, zinc undecylate, copper disodium citrate, copper triethanolamine, copper carbonate, cuprous ammonium carbonate, cupric hydroxide, copper chloride,

cupric chloride, copper ethylenediamine complex, copper oxychloride, copper oxychloride sulfate, cuprous oxide, copper thiocyanate, and mixtures thereof;

as c) a topical carrier for said zinc pyrithione and said metal ion source; and

d) a deterative surfactant; wherein the weight ratio of the metal source to the anti-microbial active is from about 5:100 to about 5:1 and wherein at least 50%, preferably 100% of the zinc pyrithione is insoluble in the composition."

- IX. With letter of 21 August 2013 the appellant informed the Board that it had no objection under Articles 123(2), 123(3) and 84 EPC against auxiliary request 6.
- X. With a communication sent in preparation to second oral proceedings the Board indicated the admittance of the newly filed auxiliary requests and their compliance with the requirements of Article 123 and 56 EPC as the main points to be discussed.
- XI. Second oral proceedings before the Board took place on 11 November 2014.
- XII. The arguments of the appellant, as far as relevant to the present decision, can be summarised as follows:

Sufficiency of disclosure

- a) The mandatory presence of a chelating agent made it impossible that 100% of the antimicrobial active was insoluble, as required by a preferred feature of granted claim 1, therefore resulting in a contradiction within the claim. Moreover, no method was disclosed for the determination of the

percentual content of soluble pyrithione salt.
Both issues resulted in lack of sufficiency, which objection equally applied to all amended requests.

Auxiliary request 7 - inventive step

- b) Document D7, taken as the closest prior art, disclosed anti-dandruff compositions containing detergents and suspended zinc pyrithione. The missing features, namely the zinc or copper salts and the chelating agent in specific quantities, did not achieve any technical effect, so that the problem was simply that of providing an alternative composition. These features were known from document D1, which suggested in a general way the use of copper sulfate and of a chelating agent in compositions containing a pyrithione salt. Moreover, also the polyethyleneimine in D7 could be considered as a chelating agent.

The appellant did not submit any argument on the admittance of auxiliary request 6 into the proceedings and did not raise any further objection against auxiliary request 7, in particular no objection under Article 123 EPC and no objection of lack of inventive step other than the one based on the combination of documents D7 and D1.

- XIII. The arguments of the respondents, as far as relevant to the present decision, can be summarised as follows:

Sufficiency of disclosure

- a) There was no requirement in granted claim 1 that the amount of insoluble active be 100%, the condition being that it be at least 50%, i.e. an

open-ended range, which could clearly be achieved according to the examples. The value 100% was only a preferred value, whose presence constituted at most a lack of clarity of the claim. As to the method for determining the amount of soluble pyrithione salt, simple analytical techniques existed which were well-known, so that the skilled person would have no difficulty in determining that content.

Auxiliary request 6 - admittance

- b) The amendments in auxiliary request 6 aimed at redefining components a) and b) in such a way that they were clearly different ingredients as was the case for the amendments in auxiliary request 5A. While the former ones did not exactly go into the same direction as the latter ones, they could not be considered as a step back, but as an attempt to solve the critical issue under Article 123(3) EPC.

Auxiliary request 7 - Article 123(3) EPC

- c) Claim 1 of auxiliary request 7 corresponded to granted claim 1 with a further limitation on each of the ingredients in "cascade form", which could not constitute an extension of the protection conferred in accordance with the case law. The fact that claim 1 resulted from the combination of granted claims 1 and 5 was a further confirmation that it could not extend the protection conferred by the patent, which is determined by the totality of the granted claims.

Auxiliary request 7 - inventive step

d) Document D7 was the closest prior art and disclosed compositions which differed from the claimed ones in that they did not contain the metal ion source, nor the chelating agent in the desired quantities. The experimental evidence in the patent showed the improvement in antimicrobial activity obtained by the addition of copper and zinc ions, so that the problem solved was the provision of a composition with improved antimicrobial efficacy. Document D1 did not hint at the proposed solution and was at odds with the invention and D7, as it presented a full solubilisation of the pyrithione salt and the presence of a high quantity of chelating agent as essential features of its compositions, while D7 aimed at having the pyrithione salt in particulate form (i.e. not solubilised). Nothing was said in D1 on any possible effect of copper ion on insoluble pyrithione salts. As to polyethyleneimine acting as chelating agent in the compositions of D7, no evidence had been provided by the appellant in this respect and in any case the quantity present in those compositions was at least one order of magnitude lower than the quantity of chelating agent desired in the compositions of D1.

XIV. The appellant requested that the decision under appeal be set aside and the patent be revoked.

XV. The respondents requested that the patent be maintained on the basis of auxiliary request 6 (now the main request) or, in the alternative, on the basis of one of

auxiliary requests 7 to 12, all filed by letter of 19 July 2013.

Reasons for the Decision

Admittance of auxiliary requests 6 and 7

1. Auxiliary requests 6 and 7, which after withdrawal of all higher ranked requests by the respondents become their highest ranked requests, were filed by letter of 19 July 2013 within the month which the respondents were given to file amended claims to overcome the objection under Article 123(3) EPC raised against claim 1 of auxiliary request 5A during the first oral proceedings before the Board (see points VII and VIII, above).
- 1.1 While the Board found it appropriate that the respondents were given a period of time to react to a newly raised objection, which although pertinent, was not capable of immediate solution and required the accordance of an appropriate period of time to satisfy the right to be heard, this exceptional situation was not the occasion to reopen the case to amendments without limitation, but was clearly intended to give the respondents the possibility to overcome the specific objection.
- 1.2 Claim 1 of auxiliary request 5A was objected under Article 123(3) EPC in view of the limitation of the metal ion source to a specific list of zinc salts ("zinc acetate, ~~zinc oxide~~, zinc carbonate, zinc hydroxide, zinc chloride, zinc sulfate, zinc citrate, zinc fluoride, zinc iodide, zinc lactate, zinc oleate, zinc oxalate, zinc phosphate, zinc propionate, zinc salicylate, zinc selenate, zinc silicate, zinc

stearate, zinc sulfide, zinc tannate, zinc tartrate, zinc valerate, zinc gluconate, zinc undecylate" in the wording of claim 1 of auxiliary request 5A) and to copper salts, thereby deleting several other classes of salts (zinc salts not listed and silver salts, nickel salts, cadmium salts, mercury salts). Due to the open definition of the content of the composition ("characterised in that it comprises") the amended claim covered compositions including the deleted salts in unlimited quantities, which were excluded by granted claim 1, in which the quantity of all mixtures of salts indicated in ingredient b) was limited so as to lie within a specific range.

- 1.3 Both auxiliary request 6 and auxiliary request 7 address this issue by combining granted claims 1 and 5, so as to formulate a double condition on the quantity of metal ion sources. However, in auxiliary request 6 the list of zinc compounds is extended with respect to the one in auxiliary request 5A by reinserting zinc oxide, while the list of zinc compounds in auxiliary request 7 corresponds to the one in auxiliary request 5A.
- 1.4 The reinsertion of zinc oxide cannot be seen as a legitimate reaction to the objection under Article 123(3) EPC and opens up a number of further issues (in particular with regard to the relevance of document D10 filed in appeal, see point V, above, and relating specifically to zinc oxide), which were no longer relevant for auxiliary request 5A.
- 1.5 That additional amendment introduced in auxiliary request 6 therefore does not exclusively serve the purpose for which additional time was given to the respondents. For this reason and in consideration of

the current state of the proceedings and the need for procedural economy, the Board finds it appropriate to exercise its discretion according to Article 13(1) of the Rules of Procedure of the Boards of Appeal by not admitting auxiliary request 6 into the proceedings.

1.6 The same problem is not present for auxiliary request 7, which contains the same list of zinc compounds as auxiliary request 5A and a more limited list of copper compounds in view of the limitation to granted claim 5 and whose amendments are substantially limited to providing a solution to the objection under Article 123(3) EPC.

1.7 In view of that the Board finds it appropriate to exercise its discretion according to Article 13(1) of the Rules of Procedure of the Boards of Appeal by admitting auxiliary request 7 into the proceedings.

Auxiliary request 7 - sufficiency of disclosure

2. The appellant raised two objections concerning sufficiency of disclosure against the granted claims and maintained them against auxiliary request 7 without any further submission.

2.1 With regard to the fact that the mandatory presence of a chelating agent makes it impossible that 100% of the antimicrobial active is insoluble in the composition as required by a preferred feature of claim 1, claim 1 indicates that a chelating agent is present in a quantity which is at most in the ratio 1 to 5 with the polyvalent metal salt of pyrithione without indicating any lower limit. The claims therefore include embodiments in which the chelating agent is present in an arbitrary small quantity, so that the insoluble part

of the salt may be as close as desired to the preferred value of 100% (even if in theory never reaching 100%). In view of that the Board considers that the issue is, if at all, a clarity one and has nothing to do with sufficiency of disclosure.

- 2.2 With regard to the objection that no method is disclosed in the patent for the determination of the content of soluble pyrithione salt, the appellant has provided no evidence why the skilled person should not be able to measure by normal analytical techniques the quantity of the salt which is solubilised and the one which is not. In the absence of evidence on the side of the party bearing the burden of proof for a lack of sufficiency, the Board can only conclude that no lack of sufficiency is present.

Auxiliary request 7 - compliance with Article 123(3) EPC

3. As the main purpose of the filing of auxiliary requests 6 to 12 was to overcome an objection under Article 123(3) EPC against claim 1 of auxiliary request 5A, it needs to be checked whether claim 1 of auxiliary request 7 meets the requirements of Article 123(3) EPC.

- 3.1 The objection against claim 1 of auxiliary request 5A arose from the limitation of the metal iron source to a specific list of zinc salts and to copper salts, whereas the metal ion source was defined in the open composition of granted claim 1 by a broader list of salts present in a quantity defined by a range (see point 1,2, above). The problem is well known in the case law (see e.g. T 2017/07 of 26 November 2009, section 2 in the grounds; T 0832/08 of 24 March 2010, section 2 in the grounds; T 1312/08 of 30 April 2010, section 2 in the grounds; T 0172/07 of 22 March 2011,

see sections 3 to 6 in the grounds; T 0869/10 of 25 May 2012, section 1 in the grounds; T 0287/11 of 1 April 2014, sections 2 to 5 in the grounds) and arises when a granted claim directed to a composition defined in an open manner, typically by means of the term "comprising", and including the presence of a component belonging to a class or list of compounds in a quantity defined by a range is later amended by limiting the definition of the class or list of compounds. In such a case, in spite of the apparent limitation due to the explicit or implicit deletion of some members of the class or list of compounds, the wording of the granted and amended claims may be such that the deleted compounds are required to be present in an amount within a defined range according to the granted claim, while they may still be present, but with no limitation in quantity, according to the amended claim, therefore resulting in an extension of the protection conferred contrary to the requirements of Article 123(3) EPC. This gives rise to a situation in which a way out for the patentee is anything but easy.

- 3.2 In the present case, the respondents decided to specify the metal ion source defined in component b) of granted claim 1 through the "group consisting of zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof" by means of a list of zinc and copper salts.
- 3.3 This limitation was accomplished in claim 1 of auxiliary request 7 by incorporating the wording of granted claim 5 into granted claim 1, so that the claim contains for component (b) both the limitation in granted claim 1, namely that the composition comprises "b) from 0.001% to 10%, preferably from 0.1% to 2%, by

weight of the composition, of a metal ion source selected from the group consisting of zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof, preferably selected from the group consisting of copper sulfate, zinc sulfate, and mixtures thereof" and the further specification that the composition comprises "as b) from 0.01% to 5%, preferably from 0.1% to 2%, by weight of the composition, of a metal ion source selected from the group consisting of zinc acetate, zinc carbonate, zinc hydroxide, zinc chloride, zinc sulfate, zinc citrate, zinc fluoride, zinc iodide, zinc lactate, zinc oleate, zinc oxalate, zinc phosphate, zinc propionate, zinc salicylate, zinc selenate, zinc silicate, zinc stearate, zinc sulfide, zinc tannate, zinc tartrate, zinc valerate, zinc gluconate, zinc undecylate, copper disodium citrate, copper triethanolamine, copper carbonate, cuprous ammonium carbonate, cupric hydroxide, copper chloride, cupric chloride, copper ethylenediamine complex, copper oxychloride, copper oxychloride sulfate, cuprous oxide, copper thiocyanate, and mixtures thereof". A similar double condition is present in claim 1 of auxiliary request 7 for components a) and c) and some further quantitative conditions are repeated twice.

- 3.4 The Board is aware that the wording of claim 1 of auxiliary request 7 is quite cumbersome, as far as the definition of the components is concerned, and that it contains repetitions which are at least in part unnecessary. However, no objection under Article 84 EPC was raised by the appellant and the Board does not see any non-compliance with Article 84 EPC which may have been introduced by the amendments. Indeed claim 1 of auxiliary request 7 simply results from the combination of granted claims 1 and 5 with minimal changes which

have no bearing on the clarity and conciseness of the claim. On that basis claim 1 is not to be objected to under Article 84 EPC (in line with the case law, see e.g. T 0301/87, OJ EPO 1990, 335).

3.5 With regard to the effect of the amendment on component b), the Board considers that the wording of amended claim 1 (like that of granted claim 5) makes it clear that:

(a) By means of the maintenance of the condition on component b) with exactly the same wording as in granted claim 1 the protection conferred by the patent is not extended, in that both granted claim 1 and claim 1 of auxiliary request 7 require that zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof are comprised in a quantity from 0.001% to 10% by weight of the composition. A composition comprising any of these salts or mixtures thereof in a quantity outside the range is not covered by granted claim 1, but is also not covered by claim 1 of auxiliary request 7.

(b) The added condition according to granted claim 5 poses a further limitation on the claim in that the composition must contain from 0.01% to 5% by weight of the specific zinc and copper salts which are listed.

3.6 By means of the double condition the claim achieves the result of not extending the protection conferred by the patent while defining a condition on component b) referring to a more limited group of compounds than the one indicated in granted claim 1.

- 3.7 The amended wording has the same effect on component b) which would be achieved by an alternative wording specifying firstly that the composition comprises from 0.01% to 5% by weight of the specific zinc and copper salts which are listed and then adding the constraint that the total amount of zinc salts, copper salts, silver salts, nickel salts, cadmium salts, mercury salts, and mixtures thereof is comprised in the range 0.001% to 10% by weight. It is this additional constraint which ensures that the protection conferred is not extended.
- 3.8 Without deciding on the requirements of Article 84 EPC in the present case for the reasons set out above (point 3.4), the Board notes that such an alternative wording (not used in the present case) would be less cumbersome and more straightforward and therefore should be preferred as a means of overcoming the type of objection under Article 123(3) EPC which has arisen in the present case.
- 3.9 As it is concluded that the protection conferred is not extended, as far as component b) is concerned, and the same applies to the other components of the composition, the requirements of Article 123(3) EPC are met.
- 3.10 The conclusion is in line with the case law on the issue.
- 3.10.1 In decision T 0287/11 of 1 April 2014 granted claim 1 related to an aerosol hair styling composition comprising *inter alia* from 5% to 90% by weight of a water-soluble polyalkylene glycol defined by a relatively broad condition. In claim 1 of auxiliary request 1 the polyethylene glycol was specified to

conform to a specific chemical formula, but the condition was added that the total amount of water-soluble polyalkylene glycol defined by the broad condition of granted claim 1 was in the range 5% to 90% by weight. The Board found that the amended claim required that a water-soluble polyalkylene glycol of the specific formula was present within the amount given, but also that the total amount of water-soluble polyalkylene glycols of the broader definition was in the range 5% to 90% by weight and that said wording rendered it unambiguous that no more and no less than the amount of a water-soluble polyalkylene glycol as defined in granted claim 1 might be present in the aerosol air styling composition, so that the requirement of Article 123(3) EPC was satisfied (points 5.1 to 5.4 of the grounds). This situation is analogous to the present one in which both a general condition as in granted claim 1 is maintained and a more specific condition on a restricted group of compounds is added.

3.10.2 A similar situation arose in T 0172/07 of 22 March 2011 in which granted claim 1 related to a composition comprising *inter alia* 0.01 to 5% by weight of one or more acids selected from α -hydroxy acid, β -hydroxy acid, 1,2-dicarboxylic acid, 1,3-dicarboxylic acid and aromatic carboxylic acid and in claim 1 of auxiliary request 1 the condition was limited to 0.01 to 5% by weight of one or more acids selected from malic acid, succinic acid and maleic acid with the additional condition that the total amount of α -hydroxy acids, β -hydroxy acids, 1,2-dicarboxylic acids, 1,3-dicarboxylic acids and aromatic carboxylic acids is in the range of 0.01 to 5% by weight. While for a claim not containing the additional condition the Board found that the requirements of Article 123(3) EPC were not met (points 3 to 6 in the grounds), neither the Board, nor the

opposing party raised any objection under Article 123(3) EPC for claim 1 of auxiliary request 1 (points 8 to 8.2 in the grounds).

3.10.3 The Board is not aware of any decision in which an infringement of the requirements of Article 123(3) EPC has been found in the presence of a double condition including a quantitative condition on a specific class or list of compounds and an additional constraint on the total amount of compounds belonging to the broader class or list present in the corresponding claim as granted.

3.11 Therefore it is concluded that where, as in the present case, a granted claim directed to a composition defined in an open manner and including the presence of a component belonging to a class or list of compounds in a quantity defined by a range is later amended by limiting the definition of the class or list of compounds, a possible infringement of the requirements of Article 123(3) EPC may be avoided by including in the amended claim a quantitative condition on the limited class or list of compounds and an additional constraint on the total amount of compounds belonging to the broader class or list.

Auxiliary request 7 - inventive step

4. Document D7 has been considered as the closest prior art both in the decision under appeal and in the arguments of the parties. The Board has no reason to deviate from this choice.

4.1 The parties also agreed that the composition of claim 1 differs from the compositions of D7 in that it contains a metal ion source in a specific quantity and selected

from a specific group of zinc and copper compounds and one or more di- or polyamine chelating agent with a limitation on its maximum quantity with respect to the pyrithione salt, all other features of the claim being disclosed in the document.

4.2 Indeed D7 relates to cleaning compositions with antimicrobial properties containing pyrithione salts (page 1, first paragraphs; claim 1). The pyrithione salt is used in particulate form (i.e. is not solubilised) and is contained in a quantity between 0.1 and 10% by weight (page 11, last paragraph), e.g. it is zinc pyrithione in a quantity of 0.5 to 2% by weight (examples in table 2). Detergents are typically present in a quantity of 10 to 35% by weight (page 12, last paragraph). The composition further contains specific soluble cationic polymers (polyethyleneimines, see claim 1) which improve the deposition and retention of the particulates included in the detergent composition in the context of the use of the composition as a shampoo and the retention of the particulates after washing (page 2, last paragraph; page 3, first three paragraphs).

4.3 While no effect is claimed to be attributable to the presence (in any minimal quantity) of the specific chelating agent, the respondents cited the examples in the patent (in particular the example in paragraphs [0218] to [0224] and the data in table 1 in paragraph [0225]) as evidence of the improvement in antimicrobial activity related to the addition of copper or zinc ions to a composition containing zinc pyrithione. While objecting that no effect can be acknowledged for the claimed composition with respect to those of D7, so that the problem should be formulated as the provision of an alternative composition, the appellant did not

provide any argument why the examples in the patent should not be relevant.

- 4.4 In the presence of data which, in spite of not reproducing exactly the compositions of the closest prior art, indeed show the claimed effect of a distinguishing feature and in the absence of counterarguments from the side of the appellant, the Board can only conclude that the problem formulated by the respondents, namely the provision of a composition with improved antimicrobial efficacy, is effectively solved by the claimed composition.
- 4.5 Document D1 addresses the problem of enhancing the antimicrobial properties of topical antimicrobial compositions based on pyrithione salts and discloses that this object can be obtained by including a strong chelating agent and divalent copper cations in the composition (page 1, first two paragraphs and page 2, first paragraph). The pyrithione salts in the compositions of D1 are either soluble pyrithione salts or insoluble salts which are solubilised by using a strong chelating agent (page 2, last paragraph). For insoluble salts the strong chelating agent is required in equimolar proportion or in excess to solubilise the salts (page 4, second paragraph). Indeed in all the examples zinc pyrithione is used with a quantity of chelating agent (disodium salt of ethylene diamine tetraacetic acid) which is over ten times larger than the quantity of the zinc pyrithione (2.5% vs 0.2% or 0.25% vs 0.02% by weight, see examples on pages 9 to 15).
- 4.6 The skilled person, aiming at solving the posed problem starting from document D7, would, however, not consider the solution proposed in D1 in view of the fundamental

difference in the two documents concerning the presence of zinc pyrithione. While in D7 the salt is in an insoluble particulate form and it is desired to improve the deposition and retention of the particulate (see point 4.2, above), D1 requires to have the salt fully solubilised, so that the skilled person, starting from D7, would not take into consideration a document in which the particulate, whose deposition and retention is desired, is eliminated through solubilisation by means of a strong chelating agent. In any case, even if the skilled person considered the teaching of D1, the combination of the two documents would result in a composition containing the desired copper cations as metal ion source, but with solubilised zinc pyrithione, i.e. not a composition according to claim 1 of auxiliary request 7. In this context it is relevant to note that in D1 the addition of the divalent copper cations is always disclosed in combination with the use of a strong chelating agent used to solubilise the insoluble pyrithione salts (see point 4.5, above).

- 4.7 As the only objection of lack of inventive step raised by the appellant does not succeed, the Board acknowledges the presence of an inventive step for the composition of claim 1 of auxiliary request 7.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent on the basis of the claims according to auxiliary request 7 filed by letter of 19 July 2013 and a description to be adapted.

The Registrar:

The Chairman:



N. Schneider

J. Riolo

Decision electronically authenticated